Communication Transformation in the Information Society: A Study of Three Techno-Communication Approaches

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Article Info	ABSTRACT
	In media studies, there are three main approaches to understanding the development of communication technology (techno-communication), are dystopian, neo-futurist, and technorealist. This study attempts to explore the dynamics of the information society, which is considered to threaten the authenticity of social relations and even has the potential to damage human values. Using a descriptive-qualitative method based on literature, this study finds that the techno-communication revolution in the information society is still academically problematic, because each school of thought (dystopian, neo-futurist, and technorealist) has equally strong academic arguments and claims. What needs to be questioned going forward is how to correlate the techno-communication revolution with the readiness of the user community; positioning the development of techno-communication in line with human needs, not the other way around, making humans merely objects of technology. *This is an open access article under the CC BY-SA license.*

Article Info	ABSTRAK
	Dalam studi media terdapat tiga pendekatan utama untuk memahami perkembangan teknologi komunikasi (tekno-komunikasi), yakni distopian, neo-futuris, dan teknorealis. Kajian ini coba mengeksplor ciri dinamika masyarakat informasi yang dianggap mengancam otentisitas relasi kehidupan sosial, bahkan potensial merusak nilai-nilai kemanusiaan. Melalui metode kajian deskriptif-kualitatif berbasis studi pustaka, kajian ini menemukan bahwa revolusi techno-komunikasi dalam masyarakat informasi, secara akademis masih bersifat problematis, karena masing-masing aliran pemikiran (distopian, neo-futuris, dan teknorealis) punya argumen akademis dan klaim yang sama kuat. Yang perlu dipersoalkan ke dapan adalah bagaimana mengorelasi revolusi tekno-komunikasi dengan kesiapan masyarakat pengguna; memosisikan perkembangan tekno-komunikasi sejalan dengan kebutuhan manusia, bukan sebaliknya, menjadikan manusia sebagai objek teknologi semata. *This is an open access article under the CC BY-SA license.*
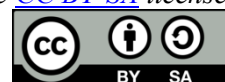
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INTRODUCTION

In this decade, it can be said, the business world, industrial players, and the academic community are still struggling to find the most appropriate solution: how the business world, industrial players, and humans (with all their human aspects and dimensions) can position themselves appropriately in the era of a networked society characterized by techno-communication (read: automation, digitalization, personalization, networking, and integration). Before the business world, industrial players, and the academic community have finished providing complete answers and overcoming the various side effects of technology that continues to move without limits, now we are faced with a new reality and fact: how the life of humanity in this era of technological siege remains in its human nature: as controllers of technology, not objects of technology.

The reason is, without prioritizing the human side as the controlling aspect of technology in this digitalized, "high-tech", and networked era, humans—who live in the century of revolution 5.0—have great potential to become "slaves of technology". As predicted by Manduric (2016): "*technology can become a weapon of destruction, a trigger for conflict, and change the order of society's life.*" Or as Adam (2023) said, "*technological development has experienced such a leap; an era where humans have entered a completely digital life; which will continue to move and cannot be stopped by anyone.*" According to Edwin Parker (1973), technological development that moves without human control will only give rise to bad conditions, such as: (1) monopoly in the management, provision, and utilization of information; (2) unequal distribution of information; (3) minimal educational message content and the rise of provocative content; (4) advertising dominated by entertainment, not thoughts, let alone ideas; and (5) invasion of privacy.

The world has experienced various dynamics and revolutions. Starting with the era of mechanization (based on industrialization), to the era of electrification, crawling to the era of automation (globalization), continuing to the era of digitalization, and finally to the current era of information (personalization), which has successfully given birth to the information society. The phenomenon of the industrial revolution that took place massively from 1760-1830 in England (followed by the second industrial revolution in the United States in 1870) has significantly changed various aspects of human life. The presence of the information society triggered by the factual industrial revolution has also given rise to the development of information technology as a sign that human civilization has entered a new era. Industrial revolutions, from the era of the 1.0 industrial revolution to the era of the 5.0 industrial revolution, have always been marked by progress in the information technology sector that has completely changed aspects of human life fundamentally. The internet, which appeared at the end of the 20th century, was the most spectacular change—which to this day is considered the most successful in dominating and hegemonizing all aspects of human life (Hadi, 2005; Chen, 2024).

The information revolution is generally understood as a significant change brought about by advances in information technology. Two significant changes resulting from the contribution of information technology to human life today are the technology's ability to

disseminate information (information sharing) and the computerized systems for processing it (computer system processes). It is called "revolutionary change" because the development of information technology has had a profound, rapid, and fundamental impact on human life today. According to Wriston (1996), there are two important factors underlying the information revolution, which is now recognized as being able to influence political behavior and business power structures at the global level. First, the very rapid transformation and increasingly widespread and intense spread of modern science and information technology in all sectors of life (politics, economics, socio-culture, law, and so on). Second, the increased investment of knowledge (science) and modern technology in the production or reproduction of wealth followed by a relative decline in the value of physical-material resources. Wriston continued, "*No matter what political leaders do or say, [computer] screens will continue to be lit, traders will continue to trade, and currency values will continue to be determined, not only by sovereign governments, but also by international actors and the results of global agreements*."

As Colmer (1994) stated: "*The development of information technology has had a significant impact on changes in global behavior and business, weakening the power of local economies and businesses, reducing the political participation of local citizens, and reducing local government intervention. The negative impact of information technology on political behavior is also caused by unequal access, the hegemony of mass communication power, the emergence of information as a new economic commodity, and the expanding ability of various groups to collect, process, and even manipulate information*."

Through a masterful combination of information technology capabilities and its relationship with global networks, information technology has become the backbone of all societal interests, particularly the business and political sectors, in connecting global communications and information transactions. Currently, the information society exists within an information production society structure, with computer networks as the primary foundation, playing a central role in efficiently accessing, managing, and exchanging information, facilitating the sending and receiving of data, and sharing access to information technology resources through data storage devices. The internet has become a "highway" used by billions of people living within the massive flow of the global information society.

Based on the explanation above, this study attempts to examine the dynamics of information society life from three perspectives: dystopian, neo-futurist, and technorealist. Data collection relies entirely on literature review and virtual observation as the primary sources.

Conceptual Definition and Literature Review

The term "information society" was first proposed by Daniel Bell in his book, *The Coming of Post-Industrial Society* (1973). Bell based his analysis on the emergence of information-based economic sectors at the end of the industrial era in the 1960s. By the early 1970s, Bell believed that production, distribution, and economic transactions had shifted to a computer-based information technology perspective. This phenomenon, Bell argued, had practically shifted the paradigm of business management in industrial society, which initially focused solely on the formula of goods and services. This has now been significantly replaced by the information society perspective due to the ability of information technology to connect all links in the economic chain.

Besides Bell, Manuel Castells in *The Information Age: Economy, Society, and Culture* (1996) is a social scientist who also made a major contribution to the study of the information

society.[1] If Bell calls the information society a "post-industrial society", then Castells calls it the "information age". For Castells, the advancement of information technology has provided the basis for "pervasive expansion", namely the social network of organizations in the social structure. Pervasive is a socio-psychological and socio-cultural situation where technology has been integrated (fully integrated) into the lives of people and their social environment. Information technology is not something special, because it has become an intrinsic part of people's daily lives. For example, for active smartphone users, when their smartphone is left behind, it will trigger feelings of discomfort or anxiety in the user's heart (Sugihartati, 2014).
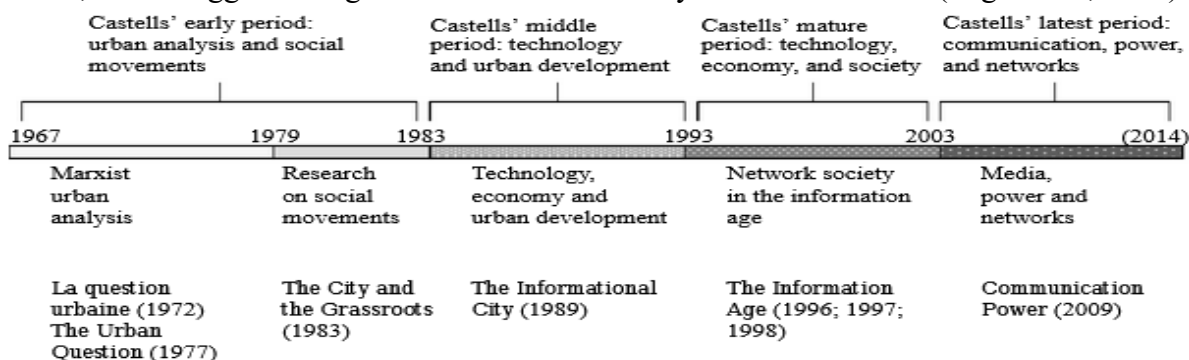
Source: Anttiroiko, 2015, p. 6

Table 1. Transition Process from a "Group Society" to an "Information Society"

System/General Social Structure	Communication Technologies (Media)	Paradigm/ Cultural Epistemology	Leadership Patterns	Institutions/ Communications Structure
Band society	Pre-talk	Magical/supernatural	Great people	*Band hunting*)
Tribal society	Talk	Mythological/depending of natural conditions	King	Tribal
Agrarian society	Writing	Religion	Clergy/ Theologian	Church
Urban commersial society	Printing	Science	Scientist	University/modern educational institution
Industrial society	Mass media (print and electronik)	Ideological	Ideologists/ persuaders	Factory; company; political party; trade union; and mass organization
Post-industrial society	Cybernetics	Technological/ programmatic	Technologist/ technocrats	Multinational corporation (MNC); government bureaucracy; research institutions
Information society	Telesatellite/ Computer network	Informatics/ networking/global awareness	Expert/workers information	Eletronic Communication network: data base, server installation, and electronic booth

Source: Nasution, 2016, p. 14

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[1] *The Information Age: Economy, Society and Culture* is a trilogy of books by Castells, published serially in his trilogy: *The Rise of the Network Society* (1996), *The Power of Identity* (1997), and *End of Millennium* (1998).

In *The Information Age* (1976), Hammer stated that information has now become a commodity that is not only created, sold, and copied, but can also be manipulated, distorted, and even stolen. Previously unknown in the strategic commodity circuit, information has now become the most expensive resource, surpassing material and energy resources. However, information is only considered to have practical use when operationalized through communication instruments. As Dennis McQuail (2011) stated, "*those who already depend on complex electronic information networks will allocate a large portion of their resources to information and communication activities*."

Another definition states that information society is a social order in which the majority of the workforce is information workers; and information has become an important part in supporting the economic life of industrial society (Rogers, 1991). Meanwhile, Joey George (2024) states that information society is a term to describe a social order that lives in a new economic structure that uses information technology and manages techno-communication as a business product as well as a capital generator (such as e-commerce, e-banking, e-procurement, e-ticketing, e-health, or digital public transportation businesses such as Gojek/Grab/Maxim/inDrive, etc.).

The literature review in this study refers to studies by experts related to the information society, including the views of Daniel Bell (*The Coming of Post-Industrial Society*, 1973); Donald P. Hammer (*The Information Age*, 1976); Manuel Castells *(The Information Age: Economy, Society, and Culture*, 1996); Anthony G. Wilhelm (*Democracy in the Digital Age: Challenges to Political Life in Cyberspace*, 2000); and Sugihartati (*Perkembangan Masyarakat Informasi & Teori Sosial Kontemporer*, 2014). The views of the five experts above are assumed to represent the theoretical framework of the information society or techno-communication. Regarding the phenomenon of the information society, this study will examine it from three perspectives, namely the dystopian perspective, the neo-futurist perspective, and the technorealist perspective. The discussion of these three perspectives refers entirely to the views of A.G. Wilhelm in *Democracy in the Digital Age: Challenges to Political Life in Cyberspace* (2000).

METHOD

Picture 1. Framework of Research
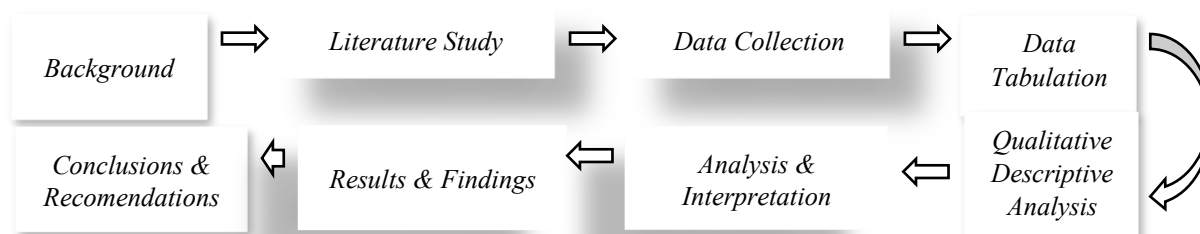
Source: Data processed by the author

This study employs qualitative research, descriptive analysis, and a literature review. The literature review was used to provide background information, problem evaluation, and a problem map related to current theoretical and conceptual positions. Through this literature review, this study seeks to uncover the actual reality of the information society, which has proven capable of connecting stakeholders' interests through the internet, and to uncover the

various implications of the phenomenon of an information-based industrial society and technology-communications.

DISCUSSION

Post-Industrial Society

As explained at the beginning of this study, in the post-industrial era, modernism experts agree that social change is no longer driven by the power of capitalist capital (material capital), but by the dominance of science, empirical research, the education industry, and the information technology industry (based on research, development, and information services) under the umbrella of the information capitalist industry. According to Castells, the Information Revolution that began in the United States in the 1970s has not only given rise to dramatic changes in information management but has also fundamentally restructured the capitalist system, giving rise to what Castells calls "informational capitalism" (Sugihartati, 2015: 59 & 61).

The end of the societal change, namely the development of information and information technology, has given birth to a new value system in the life of society which Castells calls the "informational society" and the "network society". The emergence of these two types of society stems from the convergence of three independent processes, namely the unification of: (1) the information technology revolution that replaced industrialization technology as the paradigm of the 20th century capitalist economy; (2) the restructuring of the capitalist production method to face the challenges of the information age; (3) the existence of new social movements carried by feminist ideology (equality of rights/gender balance); and (4) ecological movement (awareness of nature protection/environmental conservation).

Informational Society. The information society is one of the many interesting themes in the post-industrial society issue as proposed by Daniel Bell. According to Bell, the presence of the information society cannot be separated from the progress of information technology that has successfully influenced the life of industrial society in almost all aspects, sectors, and levels of life. Daniel Bell uses the term "post-industrial society" as a substitute for "information society", namely the transition from conventional production of goods and services to the production of knowledge systems and service innovation as the main strategy and driving source of transformation of life in post-industrial society.

In line with Bell, Castles sees the information society as characterized by the following six things: (1) informationalism; (2) network society; (3) global economy or informational economy; (4) workforce transformation; (5) global city; and (6) cyberculture. For Castles, the rapid development of science and information technology produces intensive and accumulative innovation; having a significant influence on changes in societal orientation, business behavior, and the perspectives of various public/social organizations. The dynamics of society at the end of the 19th century—triggered by the development of the information sector and network technology—ultimately produced a new type of society known as the "network society".

Network Society. Through the concept of "network society"—developed from Daniel Bell's concept—Castells came to the conclusion that network society is: (1) a type of society where the key to social structure and its activities are regulated by electronically processed information networks; (2) a society formed from major changes in information management—the result of the US information revolution of the 1970s—which triggered a fundamental restructuring of the capitalist system, from "industrial capitalism" to "informational capitalism"; (3) enabling communication to run in all directions, levels, and structures, anytime and anywhere, without the need for representation; (4) a social structure of society composed

of electronic information networks and communication technology, and the network is simply a collection of interconnected nodes without a center; (5) the productivity and efficiency of organizational work are growing rapidly; (6) There is a process of information empowerment at all layers, levels, and structures of society; (7) every individual becomes an actor, initiator and connects with each other in an open, dynamic, organized manner, and moves in all directions without obstacles; (8) the network society era makes the capitalist network increasingly global, organized and integrated.

Table 2. Differences Betwen Industrial Society and Post-Industrial Society

Pillar	Industrial Society	Post-Industrial Society
Connecting priciple	Ekonomic growth/technical aplication of technology	Grouping of theories/knowledge
Methodology	Real nature; trial-based	Abstract in nature/theory-based
Time perspective	Tentative; adapting (wait and see)	Future-oriented: making predictions and action plans
Skills	Engineers; semi-skilled workers (white collar workers)	Scientists, technicians, and professionals
Technology	Machinery and industrial technology	Intellectual and internet technology
Uses of technology	Giving birth to urban centers; mass division of labor; and facilitation of mass production	Reliance on information technology and digital platforms
Resource transformation	Creative technology	Information technology
Resource strategy	Financial, investment, and capital	Network science and technology
Economic focus	Centered on the production of goods and commodities; large-scale production; low production costs	Automation, speed, high flexibility, emphasizing information and services over product services and material goods
Social structure	Modernity, mass society; specialization of labor, expansion of scale and social structure	Postmodernity; orientation toward services, learning, and research (basing the economy on the production of information and services)

Source: Berdykulova, et al., 2024, p. 11; Darlong, 2019

As Bell stated, in the information age, information becomes a "strategic commodity" for organizations, groups, and individuals (even determining conflict or consensus between individuals, groups, organizations, and countries). Information becomes a valuable resource contested by many parties. Valuable information will be neatly stored in digital form. Academic libraries will be filled with electronic smart books. Human concepts of privacy, security, and ownership will change. Information exchange will no longer recognize cultural and territorial boundaries and transcend the dimensions of space and time. And those with expertise in the information sector will become the "new rulers."

Informational Economics. A branch of microeconomic theory that studies how information and information systems influence economic systems and business decisions. Informational economic systems have specific characteristics, such as: easy to create, but difficult to trust; easy to predict, but difficult to measure its accuracy/certainty; easy to spread, but difficult to control. Another characteristic of informational economic principles is their analysis, which is unconventional and unstandardized, unlike established economic theories in general. In general, the information economy remains based on existing corporate or business organizations within a region/country. The sources of productivity and competitiveness in the information economy do not depend on capital, but on support from science, empirical research, information networks, and technological governance (Sugihartati, 2014: 61).

The existence of a global information economy depends heavily on the productivity and capacity of companies to efficiently process, produce, and apply knowledge and information. The rise of the information economy has given rise to a new form of business organization, the network enterprise. Network enterprises are the embodiment of a global information economic culture that enables the transformation of information and knowledge commodities. In this information society era, the information economy is an open economic system capable of limitless expansion, dynamic, innovative, adaptive, creative, and capable of implementing various policy maneuvers without disrupting the existing (or already established) system (Maulana, 2016).

Cyberspace. Phraseologically, this word is derived from a combination of cybernetics and space. This phrase was first popularized by William Gibson, author of the science fiction novel "Burning Chrome" (1982). Cyberspace society has become a new issue in the postmodern era, replacing industrial society. Currently, cyberspace has given rise to a new type of society characterized by freedom of interaction (communication) on the internet. Users are not merely consumers of various types of information and news, but also serve a dual function: as producers, creators, and distributors of information. Categorically, life today can be divided into three domains: (a) the realm of social reality; (b) the realm of symbolic society; and (c) the realm of cyber society.

The phenomenon of "reality society" refers to a society that constructs and processes meaning, the formation of which stems from human social interactions in the real world (real time). Meanwhile, "symbolic society" is a society depicted by media or a fictional reality that takes place in a media-constructed space. Furthermore, "cyber society" is a type of society that thrives within a complex, virtual, networked, and borderless communication structure (Nugroho, 2020). Cyberspace is an electronic medium directly connected to a computer network that is widely used for communication activities, both one-way and two-way. Cyberspace is the result of the integration of various communication technology devices and computer networks (sensors, transducers, connections, transmissions, processors, signals, controllers) that can connect communication devices (computers, mobile phones, electronic instrumentation) scattered throughout the world directly, interactively, and massively. Cyberspace can also be interpreted as an "imaginary location" (a place where electronic activities are carried out) of a virtual society entity that is formed through communication established in an interconnected computer network.

Cyberculture. Cyberculture, or internet culture, is a type of culture that arises from the use of computer networks for communication, entertainment, and business. Merriam-Webster defines cyberculture as: "*a set of shared attitudes, practices, and goals associated with the world of computers and the Internet*" (merriam-webster.com). In the academic realm, cyberculture, or internet culture, is the study of social phenomena related to the internet and other forms of networked communication, such as online communities, online multiplayer games, social networks, computer usage, and internet applications. This study covers issues related to identity, privacy, and network formation, with a primary focus on the relationship between humans and computer devices, and interpersonal interactions that occur in cyberspace. Cyberculture is a socio-cultural movement closely related to the transformation of information and telecommunications technology, which developed between the 1980s and 1990s. The development of cyberculture is influenced by the use of internet-based communication technology; the result of a combination of information and communication technology (ICT). ICT has now become an important part of the symbol of cyberculture (Powell, 2017).

Global City. A global city is an urban center that functions as a key node in the global economic system. Global cities (key urban nodes) enjoy competitive advantages, significantly serving as catalysts for the global economic system. Global city is a term coined by Saskia Sassen (2005) to describe cities where various globalization processes take their most concrete form. Global cities have become strategic locations for various new political, economic, social, and cultural forces. Strategically, geographically, and informationally, global cities have successfully connected the lives of people across nations, while simultaneously marginalizing the existence of national states. Global cities have practically become a new playing field for the infrastructure of global civil society that currently lives in the global information era; one of the characteristics of which, according to Sassen (2005: 27), can be seen in the increasing flow of information technology, capital flows, the flow of goods and services mobility, the flow of labor mobility, and the flow of tourist mobility, both on a domestic and global scale.

Pros and Cons of Three Techno-Communication Approaches

As explained above, the final sub-chapter of this study attempts to elaborate on the information society phenomenon from three techno-communication perspectives: the dystopian, neo-futurist, and technorealist perspectives. These three perspectives (whose basic ideas are derived from the ideas of A.G. Wilhelm) attempt to uncover the various positive and negative implications related to the information society phenomenon, which has proven capable of connecting the interests of various parties (stakeholders and shareholders), at the local, national, domestic, and global levels, who have used techno-communication principles as the basis for interaction and communication.
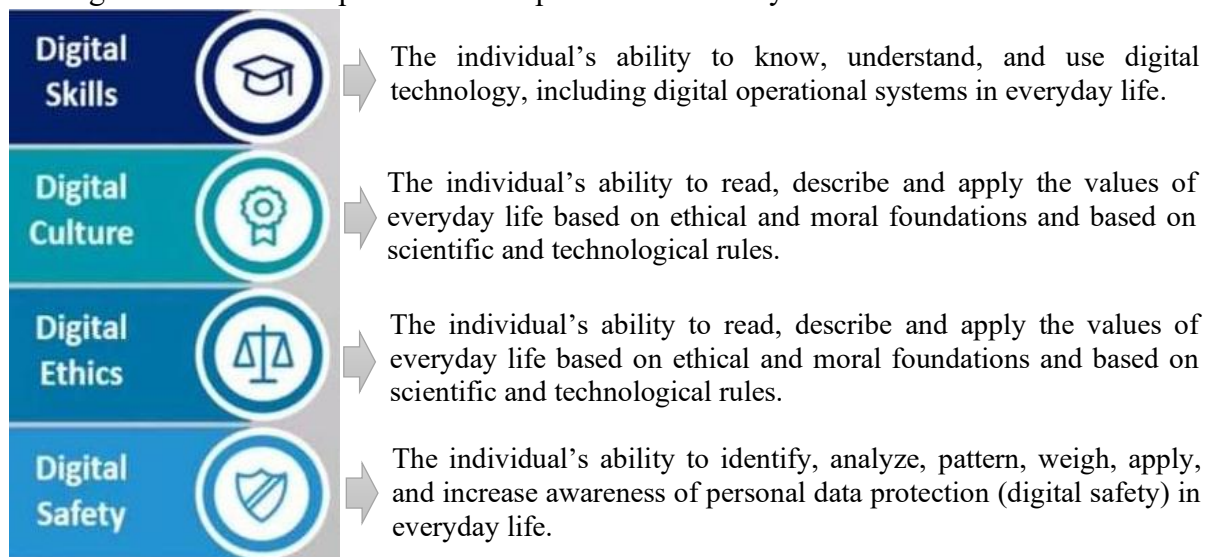
Dystopian. The dystopian perspective is a school of thought that is very cautious, even suspicious or pessimistic, regarding the dynamics of information technology development. This school believes that the development of information technology only produces negative impacts that can destroy human life, especially in the economic, political, social, and cultural aspects of life. The point of basis (point of view) of this critical school is the potential for an intense reduction process of the essential qualities of contemporary human relationships, such as the high dependence of contemporary humans on social, political, and cultural interactions, from those characterized by direct to a meditative-virtual model of relationships (Wilhelm, 2003: 5).

Figures who founded dystopian ideas include Edmund Husserl, Martin Haidegger, David Thoreau, Hannah Arendt, John Stuart Mill, John Dewey, Jeremy Bentham, Thomas More, and other philosophers known for their critical views of technological civilization. Dystopians are pessimistic about the technological age providing a "roadmap" for the future of humanity. This is because, with the chaos of human life after World War II, we see the face of the world and its inhabitants as a "broken mirror" before the technological age. A recent, current example, for example, is how social media has terrorized the lives of billions of people through the viral spread of virological issues in the Covid-19 pandemic (Launa, 2020).

Furthermore, excessive gadget use by children has had a negative impact on their psychological and emotional development. Currently, many children are becoming withdrawn; experiencing mental disorders; antisocial (loners; individualists); and uncreative. actively observe the eccentric behavior of adults (violence, aggressiveness, sadism, pornography/pornoaction or cyberbullying), and other negative spectacles. However, the dystopian movement—as an effort to neutralize the negative impacts of technology—does not just stop at static shalter: criticizing, pessimistic, and anxious. Because, not a few dystopian callers, in many cases, carry out various forms of advocacy, awareness, and literal education to the public (especially to marginalized and veriferal publics) to restore the qualities of essential

human relationships (human being/human touch) which are currently, slowly but surely, starting to fade from the spaces of life in postmodern society.

Digital Skills	The individual's ability to know, understand, and use digital technology, including digital operational systems in everyday life.
Digital Culture	The individual's ability to read, describe and apply the values of everyday life based on ethical and moral foundations and based on scientific and technological rules.
Digital Ethics	The individual's ability to read, describe and apply the values of everyday life based on ethical and moral foundations and based on scientific and technological rules.
Digital Safety	The individual's ability to identify, analyze, pattern, weigh, apply, and increase awareness of personal data protection (digital safety) in everyday life.

Neo-Futurists. The neo-futurist perspective is both a reflection and an intellectual legacy of the first wave of futurism, initiated by Alvin Toffler (*Future Shock*, 1970), John Nasibitt (*Megatrends: Ten New Directions Transforming Our Lives*, 1982), Jim Ruben (*Retooling American Democracy*, 1983), Nicholas Negraponte (*Being Digital*, 1995), and Richard Groper (*Electronic Mail and the Reinvigoration of American Democracy*, 1996). Neo-futurists are a non-critical techno-communication movement that views the development of high-speed information technology as something new that must be accepted; a logical consequence of the scientific and technological revolution. Neo-futurists urge us to be adaptive and not be haunted by excessive fear regarding the massive technologicalization currently underway. This is because technologicalization has great potential to change many things for the future of humanity. Therefore, many futurologists and neo-futurist scientists strive to reflect on and predict positive facts about what will happen in the future, referring to the positive development trends in information technology over the past two decades. Toffler, for example, stated that the fear that haunts "old people"—when faced with the anxiety of future challenges—is born from their inability to anticipate various surprising changes. Ruben, meanwhile, argues that developments in communication technology have a positive impact on democracy and the political process. In fact, advances in digital technology will invigorate democratic postures and citizen political (communication) activities. Meanwhile, Groper and Negraponte state, "*being digital is something healthy, a vitamin for the growth of democracy, and a panacea for the nation's political life*" (Nugroho, 2003: viii-ix).

Technorealist. The technorealist perspective can be called a "middleman" school of thought between the dystopian and neo-futurist schools of thought in the context of the application of digital technology (information technology) and its relationship to societal interests. In viewing the dynamics of technology and communication practices, the technorealist perspective also considers various negative aspects of viewing the information technology revolution. As a "peacemaker," this moderate school also accommodates critical aspects related to the application of technology that has the potential to negatively impact the future of human values. The main jargon of this school includes, "technology is not neutral" and "the internet is the fruit of a revolutionary information technology civilization, but it is not utopian" (Nugroho, 2003: ix-x).

Table 3. The Substance of Mark Slouka's Critique of the Information Society (Cyberspace)

Concept of *Cyberspace*	Dystopian	Neo-Futurist	Technorealist
The concept of reality	Isolated reality (loss of reality's existence)	Hyperreality (inflated reality)	Reality is understood as a balance between the abstract (reflective) and the real (concrete)
Identity concept	Reduction of the value and character of local identity	Multiplication of identities (hybrid identity)	Permissive attitudes towards various roles and constructions of the human self
Community concept	No social categories (loss of social boundaries)	Principle of globalism (network society)	Taking advantage of global connectivity; an important aspect of the phenomenon of intercultural communication (multiculturalism)
Space concept	Center point; loss of world boundaries; overlapping living spaces	Polycentric and elliptical (global village)	Seeing spatial representation; the existence of space is understood as a global map

Source: Istiarni, 2019, p. 47

Technorealist acknowledge the existence of various hegemonic interests behind media use, and the targets of a particular economic system (read: media capitalism) that controls news space, public opinion, and the regulation of media broadcast time (advertising). However, technorealists acknowledge that digital information technology also has practical benefits that can be utilized by society, without having to conflict with human values. This school of thought has received support from media professionals, journalists, and academics in the technology field. Key figures of the technorealist school include Ralf Gustav Dahrendorf (*Class and Class Conflict in Industrial Society*, 1959), George Leichteim (*Post-Bourgeois Europe*, 1963), Kenneth Boulding (*Economics of the Coming Spaceship Earth*, 1966), Daniel Bell (*The Coming of Post-Industrial Society*, 1973), and Amitai Etzioni (*Are New Technologies the Enemy of Privacy*, 1977).

However, more than that, we must also consider Mark Slouka's critique (The Visible World: A Novel, 2005) regarding the "true face" of our current universe: that our universe, fragmented in cyberspace, is a world teeming with millions of imaginations and thousands of fantasies. Like Slouka's attempt in his novel to peer into the past, when a generation faced the terrifying historical drama of the fate of millions of European soldiers and civilians who fell victim to World War II, not all generations are capable of transforming the hysteria of the past into a new, "enlightening" and "liberating" spirit. If any attempt is made, it only succeeds in relegating the traumatic story of the past to the realm of psychological fantasy or merely academic melodrama (Hoffman, 2007).

Slouka's novel is a sensitive fiction, a driving force, and a reminder for our generation to continue seriously debating complex, intricate, and elusive technological themes, with an optimistic and enthusiastic attitude. Despite its various shortcomings and dark sides, there are many valuable lessons to be learned from the discourse on the technologicalization of human life. As Slouka reminds us, "*we all live and gather in a limitless universe, where various personal desires and the machinery of power operate, with all their madness, neurosis, and narcissism.*"

CONCLUSION

The technological revolution plays a crucial role in supporting the current techno-communication dynamics, which have successfully united diverse human interests and facilitated human affairs. The value created by social networks and the internet is clearly related to the fact that they enable people to interact quickly and for free via Facebook, WhatsApp, Instagram, Telegram, Skype, and other applications. Furthermore, advances in science and technology have also facilitated the dissemination of information worldwide with the help of digital technology. To meet academic needs, we can easily access digital books or e-journals, research results, through the internet. Today, the internet can provide all kinds of credible information, allowing us to download e-books, e-journals, e-libraries, and other types of information from original sources. Digital media even provides platforms and a variety of online learning topics, such as Google Meet, Google Classroom, Zoom Meeting, Cyberlink, U Meeting, and so on. Today, everyone can carry a small library in their pocket, stored on a flash drive or smartphone. This phenomenon has created a "folded world," practical and easily accessible. The added value generated by the digital era is extraordinary, far exceeding that of the industrial era, which was based on material investment and capital.

In techno-media studies, we also draw academic insights from three approaches to understand the ebb and flow of thought dynamics developing on the issue of technologization: the dystopian, neo-futurist, and technorealist perspectives. To this day, these three schools are still considered to represent academic sketches in portraying the development of communication technology. However, the dynamics of the information society, at least by dystopians, are still considered a real threat to the existence of human values, authenticity in social relations, and even potentially damaging political life and democracy.

The academic discourse on the techno-communication revolution in the context of the information society remains problematic, as each school of thought (dystopian, neo-futurist, and technorealist) has philosophical rationales, academic arguments, and relevant empirical evidence related to its claims. However, what we need to emphasize is how to relate the information technology revolution to society's digital literacy readiness. So, how can we position the techno-communications revolution ecosystem so that it can run on the rails of humanity, becoming a pioneer of humanism; not the opposite, becoming a legacy of humanity; where humans become mere objects of technology.

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